Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-32 (canceled).

33 (previously presented). A method for generating a composite video sequence from a plurality of given video sequences, comprising the steps of:

(a) synchronizing, using at least one of a workstation, a personal computer, and dedicated processing hardware, the given video sequences into a corresponding plurality of synchronized video sequences;

(b) choosing a camera reference coordinate system for each frame of each synchronized video sequence and obtaining, using at least one of a workstation, a personal computer, and dedicated processing hardware, a camera coordinate transformation between the camera reference coordinate system and the corresponding frame of each of the synchronized video sequences; and

(c) forming, using at least one of a workstation, a personal computer, and dedicated processing hardware, the composite video sequence from the synchronized video sequences by transforming each sequence based on the camera coordinate transformation into a chosen focal plane and by superimposing the transformed sequences for merged simultaneous visualization on a single display.

34 (previously presented). The method according to claim 33, wherein the camera coordinate transformation is estimated from the plurality of synchronized video sequences.

35 (previously presented). The method according to claim 33, wherein the camera coordinate transformation is obtained from recorded camera position data and parameters including focal length.

36 (previously presented). The method according to claim 33, wherein for each video sequence a respective foreground object and a background are distinguished, and wherein the transformed foreground objects are superimposed on the transformed background.

37 (previously presented). The method according to claim 36, further comprising the step of extracting, using at least one of a workstation, a personal computer, and dedicated processing hardware, the respective foreground object and the background for each of the synchronized video sequences.

38 (previously presented). The method according to claim 37, wherein extracting comprises producing a weight mask sequence, with each weight mask being an array having an entry for each pixel position for differentiating between the respective foreground object and the background.

39 (previously presented). The method according to claim 36, wherein synchronizing is with respect to a timed event in the given sequences.

40 (previously presented). The method according to claim 33, wherein synchronizing is with respect to a common spatial event in the given sequences.

41 (previously presented). The method according to claim 33, wherein synchronizing is with respect to two events in each of the given sequences, with time scaling for equalizing time between the events.

42 (previously presented). The method according to claim 33, wherein the chosen focal plane corresponds to the focal plane of one of the given sequences, and wherein the

composite sequence is as viewed from the camera location of the one of the given sequences.

43 (previously presented). The method according to claim 33, wherein forming the composite sequences is on a frame-by-frame basis.

44 (previously presented). The method according to claim 33, wherein forming the composite sequence is based on several frames of at least one of the sequences, for an expanded field of view in the composite sequence as compared with the one of the sequences.

45 (previously presented). The method according to claim 33, wherein the given video sequences are from a sports event.

46 (previously presented). The method according to claim 45, wherein the sports event is a ski race.

47 (previously presented). The method according to claim 45, wherein the sports event is a car race.

48 (previously presented). The method according to claim 33, wherein the given video sequences have biomedical significance.

49 (previously presented). The method according to claim 48, wherein biomedical significance comprises significance as to movement of a limb of a patient.

50 (previously presented). The method according to claim 33, wherein the given video sequences comprise car crash test sequences.

51 (previously presented). The method according to claim 50, wherein the car crash test sequences comprise images of cars being tested.

52 (previously presented). The method according to claim 50, wherein the car crash test sequences comprise images of crash dummies in cars being tested.

53 (previously presented). A system for generating a composite video sequence from a plurality of given video sequences, comprising:

(a) means for synchronizing the given video sequences into a corresponding plurality of synchronized video sequences;

(b) means for choosing a camera reference coordinate system for each frame of each synchronized video sequence and obtaining a camera coordinate transformation between the camera reference coordinate system and the corresponding frame of each of the synchronized video sequences; and

(c) means for forming the composite video sequence from the synchronized video sequences by transforming each sequence based on the camera coordinate transformation into a chosen focal plane and by superimposing the transformed sequences for merged simultaneous visualization on a single display.

54 (previously presented). A method for determining differential time between two contestants at a specified location in a race, comprising:

(a) synchronizing, using at least one of a workstation, a personal computer, and dedicated processing hardware, a video sequence of one of the contestants with a video sequence of the other contestant;

(b) choosing a camera reference coordinate system for each frame of each synchronized video sequence and obtaining, using at least one of a workstation, a personal computer, and dedicated processing hardware, a camera coordinate transformation between the camera reference coordinate

system and the corresponding frame of each of the synchronized video sequences;

(c) forming, using at least one of a workstation, a personal computer, and dedicated processing hardware, a composite video sequence from the synchronized video sequences by transforming each sequence based on the camera coordinate transformation into a chosen focal plane and by superimposing the transformed sequences for merged simultaneous visualization on a single display; and

(d) counting, using at least one of a workstation, a personal computer, and dedicated processing hardware, the number of frames between the contestants passing the location in the race.

55 (previously presented). A broadcast service for transmitting a composite video sequence whose generation comprises the steps of:

(a) synchronizing, using at least one of a workstation, a personal computer, and dedicated processing hardware, a plurality of given video sequences into a corresponding plurality of synchronized video sequences;

(b) choosing a camera reference coordinate system for each frame of each synchronized video sequence and obtaining, using at least one of a workstation, a personal computer, and dedicated processing hardware, a camera coordinate transformation between the camera reference coordinate system and the corresponding frame of each of the synchronized video sequences; and

(c) forming, using at least one of a workstation, a personal computer, and dedicated processing hardware, the composite video sequence from the synchronized video sequences by transforming each sequence based on the camera coordinate transformation into a chosen focal plane and by superimposing the transformed sequences for merged simultaneous visualization on a single display.

56-58 (canceled).